

# LabSat 3 Wideband

**GNSS Record and Replay with a recording bandwidth of up to 56MHz**

LabSat is recognised as the most cost effective and intuitive GNSS simulator available. New to the LabSat range of GNSS Record and Replay devices is **LabSat 3 Wideband**, which continues with the established reliability, cost-effectiveness, and simplicity of operation that are the benchmarks of the LabSat system.



LabSat 3 Wideband greatly increases GNSS Record and Replay capabilities

A 56MHz recording bandwidth at 4 or 6 bit allows for the capture of a very wide range of live-sky satellite signals:

- GPS: L1 / L2 / L5
- GLONASS: L1 / L2 / L3
- BeiDou: B1 / B2 / B3
- QZSS: L1 / L2 / L5
- Galileo: E1 / E1a / E5a / E5b / E6
- IRNSS: L5
- SBAS: WAAS, EGNOS, GAGAN, MSAS, SDCM

LabSat 3 Wideband is housed in a conveniently small enclosure measuring 167mm x 128mm x 46mm and weighing only 1.2kg, so it can be used to record GNSS signals anywhere. Subsequent replay is entirely realistic to allow for robust product development and testing.

The system is simple to use with one touch record and replay and SSD logging, and no requirement for a connected computer. An inbuilt battery pack gives two hours of use, and a 1TB Solid State Drive (SSD) is supplied as standard.

## Standard Features

- Wide bandwidth recording at up to 56MHz
- Three RF channels
- 4 or 6 bit capture
- One touch record and replay
- Synchronised external data recording
- 1TB removable SSD
- Internal battery - up to two hours of use
- Standalone operation, or via external control
- Compact form factor; only 1.2kg
- Internal webserver for easy control

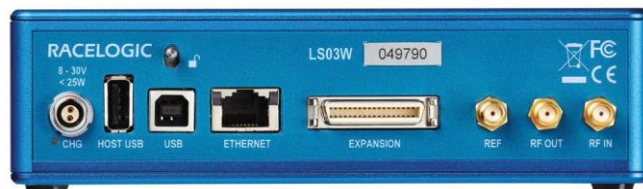
## Applications

LabSat 3 Wideband is suitable for the testing and development of a whole host of products within a wide variety of applications:

- Drones
- Autonomous vehicles
- Surveying equipment
- Personal monitoring devices
- Aerospace
- End of line product testing

## Recording and Replay of Additional Signals

**LabSat 3 Wideband** can record a range of additional signals, synchronised to the GNSS input: dual-CAN, RS232, and digital inputs are simultaneously captured increasing the level of playback realism and allowing for a wider range of testing. This flexibility means that the development of products incorporating this variety of signal streams can be conducted with absolute convenience on the bench, without the need for costly and time consuming field trials. NMEA data is also recorded via the inbuilt GNSS receiver.



## Future-Proofing Your Products

With **LabSat 3 Wideband**, you are able to develop your products and systems in readiness for new GNSS receivers capable of using the signals that will start to broadcast within the next few years. With the advent of L2C, L5, and L1C, the next generation of GNSS devices will have increased accuracy and capabilities – **LabSat 3 Wideband** gives you the opportunity to develop your products to be compatible with new receivers as they come to market. An internal webserver is available for easy configuration and device control.

| LabSat 3 Wideband             |  |
|-------------------------------|--|
| Constellations                | GPS L1, L2, L5; Galileo E1, E5a/b, E6; GLONASS L1, L2, L3; BeiDou B1, B2, B3; QZSS L1, L2, L5; IRNSS L5; In Band SBAS. Further signals in the upper and lower L band can be configured with the internal webserver. Bespoke requirements like Iridium & Sirius XM radio frequencies are available on request |
| Output Signal Level           | Adjustable -73dBm to -160dBm   |
| RF Channels                   | 3  |
| RF Channel 1 Centre Frequency | Selectable   |
| RF Channel 2 Centre Frequency | Selectable   |
| RF Channel 3 Centre Frequency | Selectable   |
| Number of Satellites Observed | All in view  |
| Sampling Frequency            | 10.23 MHz, 30.69 MHz, 60 MHz   |
| Bandwidth                     | 10 MHz, 30 MHz, 56 MHz   |
| Quantisation                  | 1, 2 or 3 bit (I & Q)  |
| Data Format                   | I & Q  |
| Additional Logging            | 2x CAN channels, 4x Digital channels   |
| Removable Battery Pack        | Yes  |
| Media Storage Included        | 1TB SSD & 4GB SD card (SD card for firmware upgrade only)  |
| Active Antenna Voltage Supply | 3.3 v  |
| Reference Oscillator          | 10 MHz OCXO, Temperature Stability +/- 0.05 ppm, Frequency Stability +/- 0.3 ppm over first year   |
| Operating Voltage             | 8v to 30 VDC   |
| Size                          | 167mm x 128mm x 46mm   |
| Weight                        | 1.2 Kg   |